

Title: Shuttle Operations

Objectives:

- Verify scheduling activities for an STS mission
- Verify scheduling of virtual spacecraft events for STS/ISS operations
- Verify scheduling activities in support of a launch slip.
- Verify use Batch Scheduling
- Verify use of Absolute and Relative Boundaries.
- Characterize effectiveness, usability, and timeliness of new SPSR tools.
- Train SO and fill out skills catalogs and Training Event Reports (TERs).
- Document Verification

Configuration:

System will be configured in the internal test configuration with the NTS configured to simulate the externals. All operator actions resulting in system output will be directed to NTS/UPS. (See Figure 1.)

Prerequisites:

- NSIA will configure system as pictured.
- Operator will review the SPSR User's Guide.
- All test and operator accounts are set up.
- Shadow receipt of a shuttle schedule and perform a database save. Restore from this database prior to scenario start.
- Database Mods have been made to reflect virtual spacecraft customer for STS/ISS.
- All NTS data has been created and verified.

Data Source:

Operations and NTS (so13.blk)

Ops Scenario: (Italicized steps are performed by NSIA, all others are performed by the operator.)

1. Review current schedule for upcoming STS launch.
2. *From NTS, send in virtual spacecraft SARs to include:*
 - ⇒ Event with K-band STS/S-band ISS
 - ⇒ Event with S-band STS/K-band ISS
3. Verify processing.
4. Review virtual spacecraft SSC and PE.
5. Add in a virtual event from the Wkstation.
6. *Inform scheduler of three day launch slip.*
7. Time shift the appropriate shuttle and payload TSWs (if applicable) by the slip amount.
8. Disable automatic scheduling.
9. Delete shuttle and virtual spacecraft events from the schedule.
10. Time shift the start times of the deleted event requests by the slip amount.
11. Generate a batch schedule to attempt to schedule the new STS/Virtual S/C events.
12. Perform conflict resolution to schedule those requests that are not scheduled.
13. Activate the batch schedule.
14. Verify the appropriate schedule messages are transmitted to the affected customers and entities.
15. Enable automatic scheduling.

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Roles and Responsibilities:

SO:

- Complete the SO Position Log IAW Local Operating Procedures.
- Perform all Operator Actions Database Maintenance Activities.
- Respond to Alerts.
- Checkout redlined version of LOPs including, but not limited to:
 - NCC-LOP-002 OPM-59 Message Processing
 - NCC-LOP-006 OPM-54 WSC Scheduling Request Message Processing
 - SU-SO-LOP-001 Daily Review Event Logs
 - SU-SO-LOP-002 Console Position Log
 - SU-SO-LOP-003 Scheduling of TDRSS Customers
 - SU-SO-LOP-004 Communication Test Messages (CTM)
 - SU-SO-LOP-006 WSC Schedule Transmission/Retransmission
 - SU-SO-LOP-007 Shift Preparation Items
 - SU-SO-LOP-009 User Event Accountability Process
 - SU-SO-LOP-010 Scheduling S0200PMs for Blocking TDRS Resources
 - SU-SO-LOP-011 BRTS Telemetry and Tracking Data message Playbacks
 - SU-SO-LOP-012 OPM-54 Processing and Distribution
 - SU-SO-LOP-015 TDRSS BRTS Scheduling
 - SU-SO-LOP-016 Rescheduling of Events
 - SU-SO-LOP-018 Verbal GN Support
 - SU-SO-LOP-019 Playback Requests
 - SU-SO-LOP-023 Scheduling an SN S/C Emergency When TDRSS Resources Are Already Allocated

NSIA:

- One NSIA engineer required.
- Configure system.
- Perform all italicized steps in test case.
- Observe/assist SO in completion of all other steps.

DOCS:

- Checkout redlined version of the following documents:
 - 532-HB-NCC/SO Scheduling Handbook (Real Time Section).
 - TBD SPSR User's Guide

Estimated Run Time: 4 hours

Written By: Melanie Wiedmann

Figure 1: Test Configuration

